

AstroCel® I HT Series

HIGH TEMPERATURE HEPA FILTERS



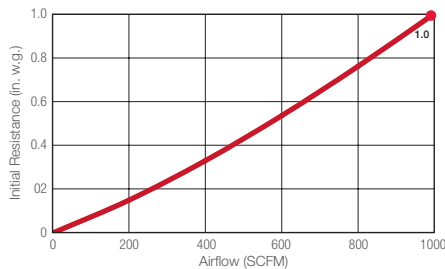
AstroCel I HT high-efficiency particulate air (HEPA) filters are designed to perform under the demanding requirements of high-temperature (HT) applications, including:

- Life Sciences/Depyrogenation and Sterilization Tunnels and Ovens
- Semiconductor/Displays
- Film/Drying
- High Temperature Exhausts

Performance Data

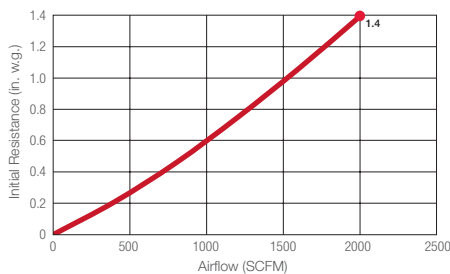
AstroCel I HT HEPA - Standard Capacity - 24 x 24 x 11½

Initial Resistance vs. Airflow Capacity



AstroCel I HT HEPA - High Capacity - 24 x 24 x 11½

Initial Resistance vs. Airflow Capacity



AstroCel I HT HEPA filters are constructed with metal frames and are available with configurations for continuous operating temperatures up to 750°F.

- 500°F (260°C) stainless steel or aluminum frames, red RTV silicone bond
- 750°F (399°C) stainless steel frames, black high-temperature cements bond (no silicone)

Manufactured to the Highest Quality Standards

Standard Capacity

5⅞" deep – 125 FPM @ 1.0 in. w.g.
11½" deep – 250 FPM @ 1.0 in. w.g.

High-Capacity

24" x 24" x 11½" deep – 2000 CFM @ 1.4 in. w.g.

Efficiencies

99.97% minimum efficiency on 0.3µm particles
99.99% minimum efficiency on 0.3µm particles

High-capacity AstroCel I HT HEPA filters are designed to handle higher airflow than a standard-capacity HEPA filter. This ability offers greater operating flexibility and energy cost savings.

- Double the airflow of a standard capacity with only a 40% increase in resistance.
- Lower resistance, lower energy cost, and longer life at the same rate of flow.

Standard AstroCel® I HT HEPA Filters

	AstroCel I HT-500	AstroCel I HT-750
Airflow (24" x 24")	500CFM/1000CFM	1000CFM
Efficiency at Nominal Airflow	99.99% @ 0.3µm	99.97% @ 0.3µm
Resistance at Nominal Airflow	1.0 in. w.g.	1.0 in. w.g.
Standard Frame Material	304 SS	316 SS
Alternate Frame Material	316 SS	NA
Frame Depth	5 ⁷ / ₈ " or 11 ¹ / ₂ "	11 ¹ / ₂ "
Standard Gasket	Silicone	Ceramic fiber
Sealant	Red silicone	Refractory cement
Separator	Aluminum	Aluminum
Standard Face Screen	None	None
Media Type	Glass	Glass
Standard Size Availability	Many	24" x 24", 24" x 30"
Max. Overall Penetration	0.01% @ 0.3 µm	0.03% @ 0.3 µm
Factory Test Conditions	Ambient	Ambient
Max. Operating Temperature	500°F (260°C)	750°F (399°C)
Packaging	Fiberboard carton	Fiberboard carton

AstroCel I HT HEPA Filter Selection

There are multiple criteria encompassing materials and performance that go into the design of an AstroCel I HT HEPA filter. Careful selection of the right combination will result in the filter that best meets the needs of your application.

Size

Sizes from 8" x 8" to 36" x 72"

AStroCel I HT filter sizes are listed with the height dimension first, followed by the width, then depth.

Minimum Efficiency

99.97% @ 0.3 µm

99.99% @ 0.3 µm (not available on HT-750)

99.999% @ 0.3 µm (not available on HT-750)

Scan Tested (Optional)

AstroCel I HT HEPA filters can be scan tested at the factory to eliminate pinhole leaks (not available on HT-750).

Media

Waterproof, fire-retardant microglass

Frame Materials

Stainless steel

Aluminum

Separators

Aluminum

Bond

Silicone (HT-500)

Black cement (HT-750)

Gasket

Silicone sponge (HT-500)

Ceramic fiber (HT-750)

Gasket Location

None

One side

Both sides

Faceguards (Optional)

Stainless steel

Faceguard Location

None

One side

Both sides

UL 586 Classified (Optional)

Numbered UL certification label to be applied.

AstroCel® I HT High-Temperature HEPA Filters

Scan Testing (HT-500)

Leak Testing

Filters that pass the overall efficiency test may still have minute pinhole leaks. AstroCel I HT HEPA filters can be factory scanned to ensure there are no pinhole leaks. Scanning detects these leaks, which are repaired before the filter is released for shipment.

AAF uses a proprietary static scan test with a challenge aerosol of non-toxic, polyfunctional alcohol that leaves no residue on the media.

For pharmaceutical and other applications requiring PAO, AAF offers scanning with this material using a light scattering photometer.



Scan test showing leak indicated by a smoke trail.



Scanning with light scattering photometer.

Overall Efficiency Testing

PAO Test – This has been the industry standard for many years. It is conducted using a light scattering photometer. The filter is challenged with polyalphaolefin (PAO). By measuring the upstream and downstream concentrations, filter efficiency can be calculated.

Media Testing to Meet Exacting Quality Standards

Every roll of media is carefully checked for a specific set of physical and performance characteristics, including:

- Efficiency
- Thickness
- Tensile Strength
- Water Repellency
- Resistance
- Weight
- Binder Content

Underwriters Laboratories Classification

UL Classified

AstroCel I HT HEPA filters are UL Classified. Testing is performed according to UL Standard 900 and ULC S111.



UL 586

This standard ensures that each filter is individually tested at the factory. Additionally, representative filters are tested by UL to ensure that they provide HEPA level filtration, after being subjected to the following conditions:

- High moisture (90% R.H.)
- High temperature (700°F/371°C for short duration)
- Low temperature (27°F/-3°C)

UL also subjects the filter to a spot flame test (1750°F / 954°C). A numbered UL label certifying that the filter meets Standard 586 is then applied to the filter.

Guaranteed Performance

In a modern test rig, each air filter is individually tested by well-trained AAF personnel before shipment to the customer. The actual test data is also assigned a serial number, and a permanent record is kept of the materials of construction and performance.

AstroCel® is a registered trademark of AAF International in the U.S. and other countries.



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ISO Certified Firm

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